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XTITLE 'NMLDDL - NML Data Definitions' IDENT = 'V04-000'

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FACILITY: DECnet-VAX Network Management Listener

ABSTRACT:

This module contains macro and symbol definitions used by all NML modules.

ENVIRONMENT: VAX/VMS Operating System

AUTHOR: Distributed Systems Software Engineering

CREATION DATE: 30-DEC-1979

MODIFIED BY:

VO3-006 MKP0008 Kathy Perko 24-June-1984
Increase the size of the QIO P4 buffer to the minimum value SYSGEN allows for MAX BUFFER. This is a slight improvement on the limit for the number of sources which can be logged for a single sink node.

V03-005 MKP0007 Kathy Perko 9-Aprit-1983
Add globals for executor address in the volatile and permanent databases.

V03-004 MKP0006 Kathy Perko 19-Sept-1983
Convert node permanent database to multiple ISAM keys for better performance. Also, make NCP response message entity buffer

```
16-SEP-1984 17:00:26.91 Page 2
NMLDDL.B32:1
                        size bigger and global - for X25 tracepoint names.
          . V03-003 MKP0005
                       MKP0005 Kathy Perko 19 Delete service functions from NML.
                                                                     19-April-1983
            V03-002 MKP0004
                       MKP0004 Kathy Perko 28-June-1982
Shrink P4 buffer size from 730 bytes to 512 to get rid
                        of QIO quota exceeded errors.
                       Add macro for generating Search Key IDs for Entity Table. Rename qualifier to use its CPT index instead of the Network
                        Management parameter code.
            V03-001 MKP0003
                                               Kathy Perko
                                                                    17-Mar-1982
                        Rename some global fields so the names mean more.
            V02-002 MKP0002
                                              Kathy Perko
                                                                     2-Nov-1981
                       Delete NML$GW_CMD_CHAN
            V02-001 MKP0001
                                              Kathy Perko
                                                                     14-Sept-1981
                       Make P4 buffer size smaller so systems with SYSGEN parameter, MAXBUF, don't get buffer quota exceeded for SHOW CIRCUIT CHARACTERSITICS.
   Miscellaneous symbols
FALSE = 0.
TRUE = 1;
   The following symbols are internal parameter codes. The values all have bit 15 set, indicating a counter value, to avoid conflicts with other
   network management parameter codes.
 LITERAL
     NMASC_PCNO_ASS = 1 ^ 15 OR 0,

NMASC_PCLI_LCS = 1 ^ 15 OR 1,

NMASC_PCNO_ECS = 1 ^ 15 OR 2,

NMASC_PCNO_NCS = 1 ^ 15 OR 3,

NMASC_PCCI_CCS = 1 ^ 15 OR 4,

NMASC_PCXP_PCS = 1 ^ 15 OR 5,

NMASC_PCXS_SCS = 1 ^ 15 OR 6;
                                                            Loop node address
                                                             Line counters
                                                             Executor node counters
                                                             Node counters
                                                            Circuit counters
                                                          ! X-25 Protocol DTE counters.
! X-25 Server counters
   Structure declarations used for system defined structures to
   save typing.
STRUCTURE
      BBLOCK_[O, P, S, E; N] =
            (BBLOCK+O)<P.S.E>.
      BBLOCKVECTOR [I, O, P, S, E; N, BS] =
            [N+BS]
            ((BBLOCKVECTOR+I*BS)+O)<P,S,E>;
```

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NMLDDL.B32:1
 Macro to generate Network ACP Control QIO (NFB) P1 buffer contents. The NFB
 describes SET, SHOW, CLEAR, and ZERO operations.
        BYTE ( %IF %IDENTICAL (FUNC, 0)
                                                   ! GIO function code.
                 XTHEN O
                 XELSE XNAME ('NFB$C_FC_',FUNC)
XFI),
        BYTE ( XIF XNULL (FLAGS)
                                                    ! Error Update and Process
                 XTHEN O
                                                            Multiple Entries flags.
                 XELSE FLAGS
        BYTE ( XIF XIDENTICAL (DATABASE, 0)
                                                   ! ACP database to update.
                 XTHEN O
                 XELSE XNAME ('NFB$C_DB_',DATABASE)
        BYTE (%IF %NULL (OPER_ONE)
                                                   ! Oper1
                 THEN O
                 XELSE OPER_ONE
                 XF I
        $SRCH_KEY (DATABASE, SRCH_KEY_ONE),
$SRCH_KEY (DATABASE, SRCH_KEY_TWO),
BYTE (%IF %NULL (OPER_TWO)
                                                    ! Search key one ID
                                                   ! Search key two ID
                                                   ! Oper2
                XTHEN O
                 XELSE OPER_TWO
                 XF I
        BYTE (0),
                                                   ! Spare
        WORD (0).
                                                   ! variable cell size
        XIF NOT XNULL (XREMAINING)
        XTHEN $FIELD_ID_LIST (DATABASE, XREMAINING)
______,LONG (NFB$C_ENDOFLIST) ! End delimiter for field ID list.
        XELSE
                LONG (NFB$C_ENDOFLIST) ! End delimiter for field ID list.
        XF I
```

Generate a Search Key ID for an NFB. If the Search key is null, use a wildcard search key ID.

\$SRCH\_KEY (DATABASE, SRCH\_ID) = LONG ( %IF %NULL (SRCH\_ID) XTHEN NFBSC\_WIEDCARD XELSE \$FIELD\_ID (DATABASE, SRCH\_ID)

I,

X.

MACRO

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N 13
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NMLDDL.B32:1
      Generate a list of longwords containing the NETACP field IDs for
      the parameters. This iterative macro will generate as many
      field IDs as are supplied.
    $FIELD_ID_LIST (DATABASE) [FIELD_ID] =
        LONG ($FIELD_ID (DATABASE, FIELD_ID))
    $FIELD_ID (DATABASE, FIELD_ID) = 
%IF %IDENTICAL (FIELD_ID, NFB$C_WILDCARD) OR
            XIDENTICAL (FIELD_ID, NFB$C_COLLATE)
        TTHEN
                FIELD_ID
        XELSE
                XIF XNULL (FIELD_ID)
                THEN
                XELSE XNAME ('NFB$C_',DATABASE,'_',FIELD_ID)
        XF I
        X:
 Macros to generate Network Control I/O request descriptors.
MACRO
          Declare the NFB buffer (use the number of input parameters to figure
          out how big to make it) and set up a descriptor for it.
        SNFBDSC (NAM) =
                SWITCHES UNAMES:
                OWN
                     _NFB : VECTOR [$NFB_ALLOCATION (%REMAINING)]
                                         INITIAL ($NFB (%REMAINING));
                    XNAME(NAM) = UPLIT (XALLOCATION(_NFB), _NFB);
                UNDECLARE _NFB;
                SWITCHES NOUNAMES
        $NFB_ALLOCATION [] =
                5+(MAX(0,%LENGTH-6))
 Macro to extract the bit number from bit field references
MACRO
    $BITN (0, B, W, S) = B
 Macro to signal status message
MACRO
    $SIGNAL_MSG [] =
        SIGNAL (NMLSK_SIG_CODE, XREMAINING)
```

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B 14
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NMLDDL.B32;1
  Macro to create constant string descriptor
MACRO
     SASCID [] =
          (UPLIT (%CHARCOUNT(%STRING(%REMAINING))
                    UPLIT BYTE (%STRING(%REMAINING))))
     X:
MACRO
     SASCIC [] =
          UPLIT BYTE (%ASCIC %STRING (%REMAINING))
  Macro to move an ASCII counted string to a buffer.
MACRO
     SMOVE_ASCIC (STRING, PTR) =
PTR = CH$MOVE ( %CHARCOUNT (%ASCIC STRING),
                              UPLIT BYTE (%ASCIC STRING),
                              .PTR)
     %:
MACRO
     DESCRIPTOR =
           BBLOCK [8]
  I/O Status Block definition
FIELD
     10SB_FIELDS =
          IOSSW_STATUS = [0, 0, 16, 0], IOSSW_COUNT = [2, 0, 16, 0], IOSSL_INFO = [4, 0, 32, 0]
                                                 ! Status field
! Byte count field
                                                 ! Dévice dependent information
          TES;
MACRO
     $10SB =
          BBLOCK [8] FIELD (ICSB_FIELDS)
  Macro to define Network Management version fields
FIELD
          NMV_FIELDS = SET
          NMV$B_VERSION = [0,0,8,0],
NMV$B_DEC_ECO = [1,0,8,0],
NMV$B_USER_ECO = [2,0,8,0]
MACRO
          NMV = BBLOCK [3] FIELD (NMV_FIELDS)
```

```
X:
```

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NMLDDL.B32:1
        Macro to define external symbols common to most of the modules.
MACRO $NML_EXTDEF =
EXTERNAL
         Event data
               NML$GB_EVTSRCTYP : BYTE,
NML$GQ_EVTSRCDSC : DESCRIPTOR,
NML$GW_EVTCLASS : WORD,
NML$GB_EVTMSKTYP : BYTE,
NML$GQ_EVTMSKDSC : DESCRIPTOR,
NML$GW_EVTSNKADR : WORD,
                                                                                                                                                                                    Event source type
                                                                                                                                                                                     Event source descriptor
                                                                                                                                                                                     Event class
                                                                                                                                                                                     Mask type
                                                                                                                                                                                    Mask descriptor
             NML$GW_EVTSNKADR: WORD,

NML$GW_ACP_CHAN,

NML$GQ_ENTSTRDSC: DESCRIPT(

NML$AB_QIOBUFFER: BBLOCK [(

NML$AB_QIOBUFFER: VECTOR [()

NML$AB_EXEBUFFER: VECTOR [()

NML$AB_EXEDATDTR,

NML$GQ_EXEDATDTR,

NML$GQ_EXEDATDSC: DESCRIPT(

NML$GQ_EXEDATDSC: DESCRIPT(

NML$GQ_EXEDATDSC: DESCRIPT(

NML$AB_RCVBUFFER: VECTOR [N

NML$AB_RCVBUFFER: VECTOR [N

NML$AB_SNDBUFFER: VECTOR [N

NML$AB_SNDBUFFER: VECTOR [N

NML$AB_SNDBUFFER: VECTOR [N

NML$AB_NMBUFFER: VECTOR [N

NML$AB_NMBUFFER: VECTOR [N

NML$AB_NMSGBLOCK: BBLOCK [N

NML$AB_NMSGBLOCK: BBLOCK [N

NML$AB_ENTITY_ID: BBLOCK [N

NML$AB_ENTITY_ID: BBLOCK [N

NML$AB_ENTITY_ID: BBLOCK [N

NML$AB_NML NMV: NMV,

NML$AB_ENTITY_ID: BBLOCK [N

NML$AB_ID: NML NMV: NMV,

                                                                                                                                                                                   Sink node address
                                                                                                         : BITVECTOR [32].
                                                                                                               DESCRIPTOR,
                                                                                                         : BBLOCK [0]
                                                                                                         : DESCR_PTOR.
                                                                                                         : VECTOR [C. BYTE],
                                                                                                               DESCRIPTOR,
                                                                                                                DESCRIPTOR.
                                                                                                               VECTOR [NMLSK_RCVBFLEN, BYTE],
                                                                                                                DESCRIPTOR.
                                                                                                               VECTOR ENMLSK_SNDBFLEN, BYTE],
                                                                                                         : DESCRIPTOR.
                                                                                                                BBLOCKVECTOR [O, CPT$K_ENTRYLEN],
                                                                                                              BBLOCK [MSB$K_LENGTH],
BBLOCK [16],
BBLOCK [16],
                                                                                                                BBLOCKVECTOR [, EITSK_ENTRYLEN],
                                                                                                              BBLOCKVECTOR [O, PST$K_ENTRYLEN],
BBLOCK [O],
VECTOR [O],
VECTOR [O],
                                                                                                                BLOCKVECTOR [PDB$K_NUMBER, 4, WORD],
                                                                                                         : BLOCK [1].
                                                                                                        : DESCRIPTOR,
                                                                                                        : DESCRIPTOR.
                  NML SGW_PRMDESCNT
                                                                                                        : WORD;
```

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```
NPARSE argument block structure definitions
MACRO
    SNPA ARGDEF =
         BUILTIN
         BIND
             NPARSE_BLOCK = AP : REF $NPA_BLKDEF;
    %:
  NPARSE argument block definition macro
MACRO
    SNPA_BLKDEF =
         BBLOCK [NPA$K_LENGTHO]
  Buffer length parameters.
LITERAL
    NMLSK_RCVBFLEN = 512,
NMLSK_SNDBFLEN = 512,
NMLSK_NFBBFLEN = 256,
                                              Receive buffer length
                                              Send buffer length
                                              Max size for an NfB.
                                              QIO buffer length
Max length for P2 buffers.
    NMLSK_QIOBFLEN = 1200,
    NMLSK P2BUFLEN = 104,
NMLSK RECBFLEN = 1024,
                                              Record Buffer length
    NML$K_ENTBUFLEN = 64,
                                              Entity name buffer size.
      Maximum bytes of data in a permanent database record. Leaves room
      for the node keys (which take up the most room) at the beginning of
      the record.
    NML$K_MAX_REC_DATA = NML$K_RECBFLEN - NMN$K_NODE_KEYS_LEN,
    NML$K_PERM_KETS_LEN = 2;
                                              Key length for all permanent databases
                                                     except the node database.
  Parameter descriptor block (PDB) definitions.
LITERAL PDB$K_NUMBER
                          = 32:
                                            ! Number of parameter descriptor slots
MACRO
         PDB$W_INDEX
                          = 0.0,16.0%;
                                             Parameter change table (CPT) index
MACRO
         PDB$W COUNT
                          = 1.0.16.0%;
                                              Parameter byte count
MACRO
         PDB$A_POINTER
                          = 2.0.32.0%;
                                            ! Pointer to parameter value
LITERAL PDB$K_SIZE
                          = 8:
                                            ! Size of parameter descriptor entry
```

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